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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,138

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Pierre Ansay

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EXAMINER

EISEMAN, ADAM JARED

ART UNIT

PAPER NUMBER

3736

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,138	Applicant(s) ANSAY ET AL.	
	Examiner ADAM EISEMAN	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-8 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to applicant's amendments and arguments/remarks filed on 4/27/2011.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 5; a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 5 recites the broad recitation producing a magnetic field of a power less than 1 mTesla,

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and the claim also recites "preferably less than 1 microTesla" which is the narrower statement of the range/limitation.

5. Regarding claim 7; the term "close" is a relative term which renders the claim indefinite. The term "close" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Essentially, close can be any number of distances and may be interpreted differently by different people, thus claiming that the energizing circuit is placed close to the induction coil and the capacitor, does not define the claim.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

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- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Currently, the applicant's specification lacks the headings as defined above. The applicant is encouraged to amend the specification to include the headings within the specification in the desired locations.

Claim Rejections - 35 USC § 103

- 6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- 7. Claims 1 and 5-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Karlheinz (attached documents DE 41 14 398 and machine translation of DE 41 14 398) in view of Gottfried (US 3,200,399).

Karlheinz discloses a distance measuring device comprising a emitter (element 2) and a receiver (element 3) where the device measures the distance between the transmitter and receiver where the transmitter is configured to produce a magnetic field by means of a resonant circuit having a resonant frequency and the receiver is configured to pick up the resonant frequency and magnetic field emitted by the emitter and convert it to strength of the magnetic field into a signal having an energy value; wherein the emitter is configured to produce the magnetic field intermittently each emission having a predetermined energy; and the receiver connected to a detector (element 6) configured to determine the distance between the transmitter and emitter.

However Karlheinz does not explicitly disclose that the first signal is correlated with a second signal that is particularly chosen to maximize accuracy wherein the second signal is synchronized first signal and the comprises at least an initial sub period, an intermediate sub period and a final sub period where the amplitude of the initial and final sub periods are attenuated and the amplitude is maximized during the intermediate period.

Gottfried teaches using first emitted and received signal and a second signal and comparing them in order to determine the distance between the signal emission and reception wherein the first and second signal are identical oscillating waveform signals that synchronized with each other (column 2, line 15 – column 3, line 15).

Regarding claims 1 and 5-7; it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlheinz to use a second signal that is a duplicate to first signal when it is emitted and correlating to the transmitted and received signal with the second signal in order to determine the distance between emitter and receiver as taught by Gottfried. Furthermore, Gottfried discloses that the signals are oscillating waveforms, which inherently have a time window having a predetermined duration (in a given oscillating signal have a frequency, the period or time window of a signal is the inverse of the frequency). As such, an oscillating waveform has 3 sub periods (as the duration of each of these sub periods is not defined in the claim or the specification, they are open to interpretation), the initial (the start of the oscillating signal from zero), the intermediate (the part of the oscillating motion where the amplitude rises, reaches a peak and begins to fall), and a final sub period (whenever the oscillating

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signal returns back to 0); wherein the first and final periods are attenuated (the amplitude is weak at the beginning and end of a period) and substantially at a maximum in the intermediate sub period (when the oscillating signal is at its maximum amplitude).

Further regarding claim 5; it is well known in the art to encase circuitry in a housing which produces magnetic field fields outside the housing in order to protect the circuitry. For example see US 6,943,543 to Gass et al which shows the electronics of an emitter for producing a magnetic field within a housing. Furthermore, there is no specific reasoning or novel advantage to producing of a magnetic field at a specific power less than 1 mTesla given in the applicant's disclosure, and would and thus been obvious to one of ordinary skill in the art as a design choice.

Further regarding claim 6-7; it is well known in the art that a resonant circuit consists of a resistor, induction coil, and a capacitor connected in series (resonant circuits are also known as RLC circuits) and that a voltage sources are commonly connected to a resonant circuits for controlling magnetic fields and oscillation signals. For an example one can look to US 6,943,543 to Gass et al which discloses such a known setup in the background of the invention (column 1, lines 39-54).

8. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karlheinz and Gottfried as applied to claims 1-7 above, and further in view of Brown (US 6,032,065).

Karlheinz as modified by Gottfried was described in the rejections above; however it does not disclose the use of the displacement sensor for use with a patient as a sleep disorder detector.

Brown teaches the use of a facial mask which is used to measure the movement of the face and mouth during sleep as a way of screening and diagnosing sleep disorders (column 2, lines 38 – column 3, line 47).

Regarding claim 8; Brown teaches that it is known to measure the displacement and movement of a user's face as a means for diagnosing sleep disorders. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the Karlheinz/Gottfried displacement/movement measurement device to measure the face/mouth movement/displacement of a sleeping user in order to diagnose sleep disorders as taught by Brown.

Allowable Subject Matter

9. Claims 2-4 and 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 4/27/2011 in regards to claims 1 and 5-8 have been fully considered but they are not persuasive.

The applicant argues that Gottfried's method of using the phase difference between two signals to determine the distance is not used in the applicant's invention and thus the combination of Karlheinz and Gottfried wouldn't enable one to obtain the presently claimed invention. The examiner finds the argument non persuasive in that the claim only recites that a first and second signal are used to determine a displacement through correlation of synchronized signals. The examiner contends that

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Gottfried teaches this aspect, as the first and second signals are synchronized (they must be synchronized and start at the same time in order for the phase difference to be used to determine displacement) and the signals are correlated to determine the distance (the received signal is correlated with the second signal to determine the phase difference, which is used to detect the displacement). Thus the examiner contends the rejection as stands meets the claim language as recited.

Furthermore the applicant argues that the second signal comprises a time window having predetermined duration and comprising different periods and that no such signal is disclosed by Gottfried. The examiner finds the argument non persuasive as described in the rejection of claim 1 above (every oscillating waveform inherently has a predetermined time window; the period based on the frequency, and can be broken up into sub periods [as no details are given to the sub periods, one can break them up as they please]). Furthermore, the applicant argues that Gottfried's second signal is stored in stored in the receiver and not received by the receiver and thus doesn't teach the invention. The examiner finds the argument non persuasive as there is no claim language requiring that the second signal be received, only that there is a second signal used for correlating with the first signal.

Finally, the applicant argues with the examiner's taking official notice of features well known in the art such as the use of housing and the setup of a resonant circuit. Accordingly, in order to back up the examiner's taking of official notice that such features are well known in the art, the examiner has cited the Gass et al reference (US 6,943,543) to show that such features were indeed known in the art.

The applicant's arguments regarding claims 2-4 and 9-14 were persuasive as the prior art of reference did not teach correlating the signal through multiplication and integration with different signal types or the specifics of how the displacement measuring device would be used with a facial support for diagnosing sleeping disorders.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM EISEMAN whose telephone number is (571)270-3818. The examiner can normally be reached on Monday-Friday 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571)272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AE

7/14/2011

/A. E./

Examiner, Art Unit 3736

/Max Hindenburg/

Supervisory Patent Examiner, Art Unit 3736